

# MARATHON ELECTRIC MAGNAPLUS GENERATORS

Section 3600

Basic Model 431PSL6202

Test Report No. WC1900

Date: 1-1-00

## TYPICAL SUBMITTAL DATA

kW (kVA)	1500 RPM			50 Hertz			12 Leads		
	3 Phase			0.8 Power Factor			Dripproof or Open Enclosure		
	Class B	Class F					Class H		
Voltage*	80° C ① Continuous	90° C ① Lloyds	95° C ① ABS	105° C British Standard	105° C ① Continuous	130° C ① Standby	125° C British Standard	125° C ① Continuous	150° C ① Standby
220/440	86 (108)	94 (118)	97 (121)	104 (130)	104 (130)	113 (141)	109 (136)	112 (140)	120 (150)
208/415	94 (118)	101 (126)	105 (131)	112 (140)	112 (140)	120 (150)	113 (141)	120 (150)	124 (155)
200/400	98 (123)	105 (131)	108 (135)	113 (141)	113 (141)	122 (153)	116 (145)	120 (150)	128 (160)
190/380	100 (125)	108 (135)	112 (140)	114 (143)	114 (143)	124 (155)	116 (145)	121 (151)	128 (160)
173/346	97 (121)	104 (130)	105 (131)	112 (140)	112 (140)	120 (150)	113 (141)	116 (145)	124 (155)

① Rise by resistance method, Mil-Std-705, Method 680.1b.

Rating per BS 5000.

Submittal Data: 208/415 Volts*, 150 kVA, 1500 RPM, 50 Hz, 3 Phase					
Mil-Std-705B			Mil-Std-705B		
Method	Description	Value	Method	Description	Value
301.1b	Insulation Resistance	> 1.5 Meg	505.3b	Overspeed	1875 RPM
302.1a	High Potential Test		507.1c	Phase Sequence CCW-ODE	ABC
	Main Stator	2000 Volts	508.1c	Voltage Balance, L-L or L-N	0.2%
	Main Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Total (Distortion Factor)	5.0%
	Exciter Stator	1500 Volts	601.4a	L-L Harmonic Maximum - Single	3.0%
	Exciter Rotor	1500 Volts	601.1c	Deviation Factor	5.0%
	PMG Stator	1500 Volts**	---	TIF (1960 Weightings)	<50
401.1a	Stator Resistance, Line to Line High Wye Connection	0.0718 Ohms	625.1c	Mechanical Strength (High Wye Connection, Sustained 3 Phase Short Circuit Current) <sup>(3)</sup>	< 300%
	Rotor Resistance	0.598 Ohms	652.1a	Shaft Current	< 0.1 ma
	Exciter Stator	18.5 Ohms	652.1a	Main Stator Capacitance to Ground	0.015 mfd
	Exciter Rotor	0.116 Ohms			
	PMG Stator	2.1 Ohms**			
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.7 A DC			
420.1a	Short Circuit Ratio	0.66			
421.1a	Xd Synchronous Reactance	2.061 pu			
422.1a	X2 Negative Sequence Reactance	0.236 pu			
423.1a	X0 Zero Sequence Reactance	0.044 pu			
425.1a	X'd Transient Reactance	0.163 pu			
426.1a	X''d Subtransient Reactance	0.156 pu			
--	Xq Quadrature Synchronous Reactance	1.271 pu			
427.1a	T'd Transient Short Circuit Time Constant	0.048 sec.			
428.1a	T''d Subtransient Short Circuit Time Constant	0.005 sec.			
430.1a	T'do Transient Open Circuit Time Constant	1.34 sec.			
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.014 sec.			

**Additional Prototype Mil-Std Methods  
are Available on Request.**

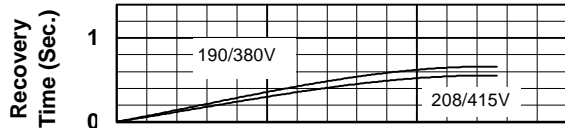
<sup>(3)</sup> Excitation support system or PMG required to sustain short circuit currents.

\* Voltage refers to wye (star) connection, unless otherwise specified.

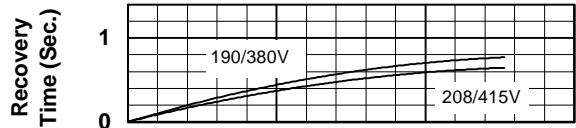
\*\*Not supplied as standard equipment.

\*\*\*DVR<sup>®</sup>2000 voltage regulator supplied with PMG option. DVR<sup>®</sup>2000 voltage regulation 1/4%, 1 or 3 Phase sensing.

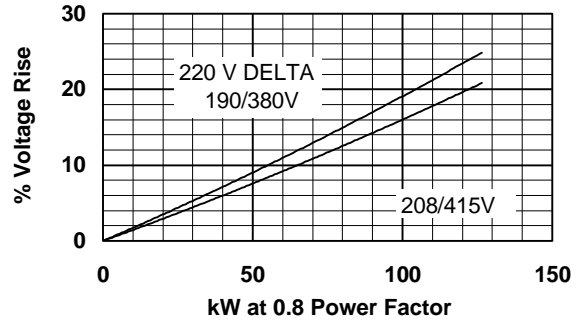
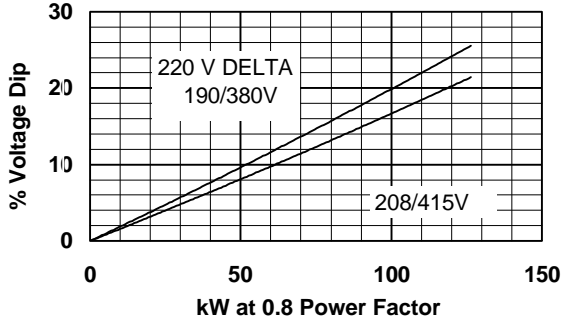
**TYPICAL DYNAMIC CHARACTERISTICS**  
**50 HERTZ**



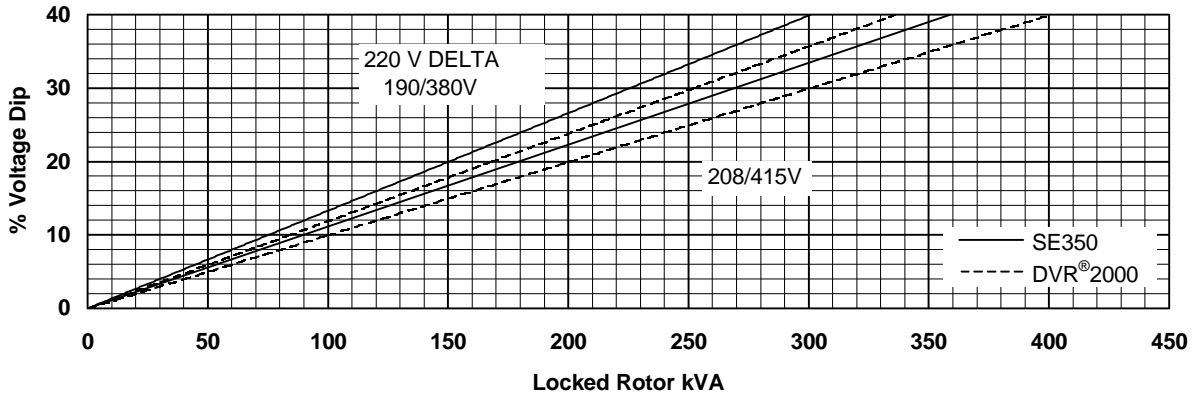
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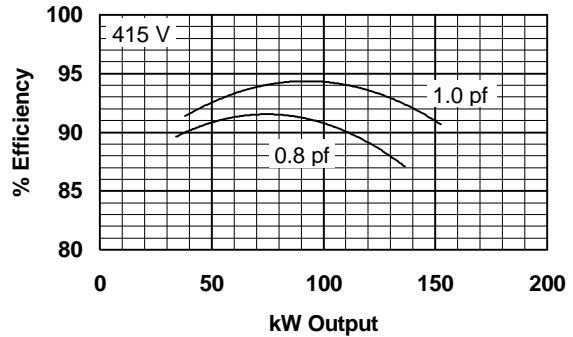
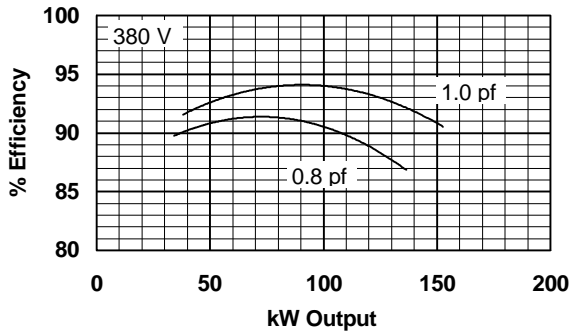
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**TYPICAL MOTOR STARTING CHARACTERISTICS**



**TYPICAL GENERATOR EFFICIENCY**



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